

Visualizing Use Case Sets as BPMN Processes

Problem Description

Especially in SOA projects but in other projects as well, software has to support business processes. These processes are part of the software requirements as well as the Use Case descriptions. **Both models overlap which wastes time for creating and maintaining the software requirements.**

Solution

Generate BPMN processes from textual Use Cases

- Generate sequential flows for scenario
- Create decision points for extensions
- Match Pre- and Postconditions of Use Cases
- Join Use Cases

Advantages

- Useful to generate skeleton business processes
- Helps visualizing and identifying dependencies between Use Cases
- Helps validating dependencies between Use Cases
- Helps validating pre- and postconditions of Use Cases

Open Questions for Future Work

- Non-Literal matching of pre- and postconditions
- Also useful for comparing business processes with given Use Cases?
- Advanced Tool-Support

Use Case	#1: Student applies for Thesis
Primary Actor	Student
Stakeholders	Student: wants to apply easily Secretary (Academic Examination Office): wants easy to use/read forms for further handling registration
Minimal Guarantees	none
Success Guarantees	Application is submitted
Preconditions	none
Triggers	Student wants to write thesis
Main Success Scenario	1 Student selects "Apply for Thesis" 2 System Shows application form 3 Student fills out application form and submits it 4 System shows confirmation
Extensions	none

Use Case	#3: Student selects Topic
Primary Actor	Student
Stakeholders	Student: wants to have interesting topic
Minimal Guarantees	none
Success Guarantees	Student has picked a Topic
Preconditions	none
Triggers	Student wants to write thesis
Main Success Scenario	1 Student chooses most interesting topic 2 Student asks Supervisor to get the topic 3 Supervisor Enters student for topic 4 System saves topic with student and shows confirmation
Extensions	none

Use Case	#2: Academic Examination Office approves Thesis
Primary Actor	Student
Stakeholders	Secretary (Academic Examination Office): wants easy to use/read forms for further handling registration Manager (Academic Examination Office): wants short handling times
Minimal Guarantees	Student's data are handled according to regulations
Success Guarantees	Student may write Thesis
Preconditions	Application is complete
Triggers	Application is submitted
Main Success Scenario	1 Secretary Selects "Process Applications" 2 System Shows list of all applications 3 Secretary checks if student has 80% of Credit Points 4 Secretary marks application as approved 5 System stores application as approved
Extensions	3a If Student has less than 80% of Credit Points then Secretary denies Application

Use Case	#4: Supervisor approves Topic
Primary Actor	Supervisor
Stakeholders	Supervisor: wants no paperwork Secretary (Academic Examination Office): wants easy to use/read forms for further handling registration
Minimal Guarantees	none
Success Guarantees	Student has Topic
Preconditions	Student may write Thesis Student has picked a Topic
Triggers	none
Main Success Scenario	... 1 Supervisor hands out Topic ...
Extensions	(left out)

